WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

[The Marine Division, WILLIS E. HURD, acting in charge]

NORTH ATLANTIC OCEAN, JANUARY 1936

By H. C. HUNTER

Atmospheric pressure.—Pressure averaged below normal over nearly all portions of the North Atlantic. Incomplete data from the Greenland-Iceland area, however, suggest that over most of that region pressure averaged above normal.

At Valencia, Ireland, the average pressure was 29.42 inches, or almost half an inch lower than normal; and only from the 11th to the 15th was the pressure higher than 30 inches. At Horta the average was 29.83 inches, one-third of an inch below normal; this monthly average departure is one of the largest of record for the station. The readings there were almost continuously less than 30 inches from the 7th to the 29th.

The highest reading, 30.58 inches, reported from a vessel was comparatively low to represent a winter month. It was made during the forenoon of the 1st on the American steamship *Delfina* when nearly 100 miles southeast of Cape May, N. J. The lowest mark was 28.30 inches (uncorrected), read on the British steamship *Blythmoor* on the forenoon of the 5th, the position being less than 200 miles south of the southern tip of Ireland. Table 1 indicates a reading of 28.30 inches at Lerwick, Shetland Islands, on the 10th. A corrected pressure of 28.39 inches was noted shortly before noon of the 28th by the Swedish motorship *Blankaholm* about 200 miles to westward of northwestern Scotland.

TABLE 1.—*Averages, departures, and extremes of atmospheric pressure (sea level) at selected stations for the North Atlantic Ocean and its shores, January 1936*

Station	Average pressure	Departure	Highest	Date	Lowest	Date
	Inches	*Inch*	*Inches*		*Inches*	
Julianehaab, Greenland	29.72		30.13	19	29.10	26
Reykjavik, Iceland [1]	29.64	+0.18	30.02	6	29.01	28
Lerwick, Shetland Islands	29.38	−.32	30.07	14	28.30	10
Valencia, Ireland	29.42	−.48	30.21	12	28.88	6
Lisbon, Portugal	29.98	−.17	30.39	10	29.55	19
Madeira	30.02	−.08	30.32	31	29.61	18
Horta, Azores	29.83	−.33	30.21	5	29.42	18
Belle Isle, Newfoundland	29.63	−.17	30.34	10	28.58	21
Halifax, Nova Scotia	29.80	−.18	30.58	2	28.86	20
Nantucket	29.91	−.13	30.49	8	28.88	19
Hatteras	30.05	−.09	30.50	1	29.16	19
Bermuda	30.08	−.08	30.30	1, 2	29.64	31
Turks Island	30.04	−.01	30.14	7	29.92	23
Key West	30.04	−.06	30.24	31	29.82	19
New Orleans	30.06	−.07	30.54	28	29.55	18

[1] For 24 days.

NOTE.—All data based on a. m. observations only, with departures compiled from best available normals related to time of observation, except Hatteras, Key West, Nantucket, and New Orleans, which are 24-hour corrected means.

Cyclones and gales.—As is to be expected in midwinter, there were many gales reported from the North Atlantic area. However, in only two instances was force 12 noted; and force 11 was reported as encountered only 10 times. Scarcely any of these especially intense gales were met anywhere near midocean.

Gales were experienced by numerous vessels in the waters near the coasts of Spain, France, and the British Isles during the first 6 days, especially on the 5th, when pressure was decidedly low over and to southwestward of Ireland. Also on the 5th and 6th several vessels encountered gales from the vicinity of Nova Scotia to the eastern limit of the Grand Banks and somewhat beyond, in connection with the eastward movement of a well-marked LOW. The situation on the 6th is shown by chart IX.

On the 5th the British steamship *Ulysses*, just out from Liverpool, bound for Brisbane, was swept by a huge wave in the Irish Sea, three men of the crew being killed and four injured. On this day the British steamship *Blythmoor* encountered winds of hurricane strength (force 12) when about 200 miles south of Ireland.

The LOW noted as near the Grand Banks on the 6th continued to move eastward, and about the 7th and 8th the development of a southward extension led to occurrence of noteworthy gales in latitudes about 35° to 42°, mainly from about midway between Bermuda and Horta to near the eastern limit of the Azores.

The Grand Banks LOW reached the vicinity of Ireland on the 9th, and many reports of intense gales over the waters to southward of that island have been received. The waters near the American coast from Delaware Bay to Newfoundland, and for considerable distances to eastward, were under the influence of two important storms from the 10th to 13th. Apparently it was the second of these which was the cause of damage to the rudder of the American liner *City of Hamburg*, partially crippling the vessel, which put into St. John's, Newfoundland, for repairs.

Another LOW, central on the morning of the 15th near Hatteras, traveled northeastward and this with the LOW preceding it may be found noted on chart X, for the 16th.

Numerous intense gales near the northeastern coast of the United States were reported on the 19th, in connection with a storm centered close to Hatteras. This storm, advancing rapidly northeastward, crossed the Gulf of St. Lawrence on the 20th. On the 23d an energetic LOW from the Lake region caused other gales over the same waters, as it traveled first southeastward, and then northeastward, to Labrador. This latter storm broke Nantucket lightship adrift, but the damage was not serious. From Labrador this storm moved across the ocean, to eastward at first, and thereafter more to northeastward, till it was not far to northwestward of Ireland on the 27th. This storm caused the first intense gales noted for over 2 weeks in the area east of midocean and north of the latitude of the Azores.

The second occurrence of force 12 during the month was on the 29th, not far to westward of the coast of Portugal, where the Belgian steamship *Makala* met the extreme wind while bound north for Antwerp. No other reports relating to this storm have been received from the area where the *Makala* met it.

In the southwestern part of the Caribbean Sea unusually strong trades (force 8) were noted on the 14th. There was a marked norther a few days later over the western part of the Gulf of Mexico, reported by one vessel near the Louisiana coast on the 18th. On the 19th a fishing boat outside Tampico harbor was capsized by unusually high waves and 11 of the crew lost their lives.

According to the United States consulate, Tenerife, Canary Islands, a severe storm of hurricane force prevailed at those islands for about 16 hours on the 21st. Damage to crops was considerable, that to the banana crop being estimated as 50 percent.

Fog.—Fog was less frequent than usual in January. In no part of the North Atlantic, save close to the coast of the United States, do reports at hand indicate its

occurrence on more than 3 days. Even some parts of the Grand Banks furnish only a single report of fog encountered.

The square from 35° to 40° N., 70° to 75° W., with 7 days, had more fog than any other area in the North Atlantic proper. Between the 70th and the 55th meridians, and south of the 35th parallel, Atlantic waters had very little fog this month.

Parts of the Gulf of Mexico had considerable fog, the square 25° to 30° N., 90° to 95° W., noting 11 days, 7 of which were among the first 12 days of January. Although this seems to be naturally the foggiest portion of the Gulf, yet the occurrences this year were abnormally many.

On the 17th, dense fog at the entrance to St. Johns River, below Jacksonville, Fla., led to a collision, by which the British steamship *Welcombe* was sunk; it was floated several days later, however. A less serious collision occurred in fog the following day in the Gulf of Mexico, near Sabine Pass. About the 28th the American steamship *Texas Banker* grounded near Aransas Pass, in foggy weather, but a fortnight later was floated and towed to port.

Coastal ice.—From Virginia northeastward, ice beyond that usually met in winter time was found in many coastal waters—bays, harbors, coastwise canals, and navigable rivers, especially during the last week of the month. Ice breakers and Coast Guard cutters were kept unusually busy.

OCEAN GALES AND STORMS, JANUARY 1936

Vessel	Voyage		Position at time of lowest barometer		Gale began January—	Time of lowest barometer January—	Gale ended January—	Lowest barometer	Direction of wind when gale began	Direction and force of wind at time of lowest barometer	Direction of wind when gale ended	Direction and highest force of wind	Shifts of wind near time of lowest barometer
	From—	To—	Latitude	Longitude									
NORTH ATLANTIC OCEAN			° ′	° ′				*Inches*					
Perna, Du. M. S.	Rouen	Curacao	48 32 N.	6 00 W.	[1]31	—, 1.	3	28.86	SW.	SW, 8	NW.	W, 10	SW-W.
Troeas, Br. M. S.	Harburg	do	47 00 N.	9 50 W.	3	Noon, 3	3	29.34	WNW.	WNW.	WNW.	WNW,10	Steady.
Emilia, Am. S. S.	San Juan	New York	36 15 N.	72 50 W.	3	do	3	29.60	SSW.	SSW, 9	NW.	SSW, 9	SSW-NW-N.
Cranford, Am. S. S.	Hamburg	Tampa	44 45 N.	12 45 W.	4	5a, 5	6	29.10	SSE.	S, 10	WSW.	SE, 11	SE-S-WNW.
West Hika, Am. S. S.	Mobile	London	48 30 N.	12 08 W.	5	8a, 5	6	28.58	N.	N, 10	WSW.	WNW,10	N-WNW.
Blythmoor, Br. S. S.	Shields	Cristobal	48 52 N.	9 22 W.	5	10a, 5	5	[2]28.30	S.	S, 8	W.	W, 12	S-W-WNW.
Steel Inventor, Am. S. S.	Cristobal	London	48 36 N.	10 12 W.	5	do	5	28.55	SSE.	Calm	W.	SW, 11	SE-Calm-WSW.
Europa, Ger. S. S.	Cherbourg	New York	49 56 N.	11 40 W.	5	11a, 5	5	28.64	ESE.	N, 10	WNW.	NW,10	E-N-NW.
Veendam, Du. S. S.	Rotterdam	do	50 17 N.	6 51 W.	5	5p, 5	6	28.60	S.	S, 11	W.	S, 11	S-SW.
Washington, Am. S. S.	Cobh	do	42 56 N.	57 37 W.	4	8p, 5	5	29.36	S.	W, 9	W.	W, 10	SSW-W.
Tennessee, Dan. S. S.	Newcastle	Boston	49 32 N.	47 53 W.	6	4p, 6	7	28.81	W.	W	W.	W, 11	
Europa, Ger. S. S.	Cherbourg	New York	47 31 N.	35 03 W.	6	10p, 6	7	28.93	WSW.	WSW, 8	W.	W, 10	SE-WSW-W.
Exermont, Am. S. S.	New York	Gibraltar	39 48 N.	32 50 W.	6	5a, 7	7	29.48	SW.	WNW, 10	WNW.	WNW,10	WSW-WNW.
Boston City, Br. S. S.	Newport, England.	Philadelphia	45 40 N.	40 34 W.	6	3a, 8	10	28.77	S.	W, 9	N.	WNW,10	W-NW.
Executive, Am. S. S.	Gibraltar	New York	36 30 N.	45 50 W.	6	6a, 8	10	29.50	SW.	WSW, 10	NNE.	WSW, 10	SW-WSW-NNE.
Bodegraven, Du. S. S.	Amsterdam	Curacao	36 49 N.	27 08 W.	8	Mdt., 8	9	29.39	SW.	SW, 9	SW.	SW, 9	None.
Blythmoor, Br. S. S.	Shields	Cristobal	44 55 N.	17 35 W.	9	6a, 9	9	[2]29.03	SSE.	S, 8	WSW.	SSE, 11	SSE-WSW.
West Madaket, Am. S. S.	London	Mobile	47 27 N.	13 23 W.	9	9a, 9	9	28.98	S.	SSW, 11	SW.	SSW, 11	SSW-WSW.
General Gassouin, Fr. M. S.	New York	Antwerp	49 34 N.	13 45 W.	9	10a, 9	10	28.47	SSW.	SW, 11	WSW.	S, 11	S-SW-W.
Jean Jadot, Belg. S. S.	do	do	50 08 N.	9 32 W.	9	1p, 9	10	28.70	SSW.	W, 10	W.	W, 10	S-W.
Black Condor, Am. S. S.	Rotterdam	New York	43 30 N.	62 54 W.	10	8p, 10	10	29.32	SW.	SW, 9	W.	SW, 9	SE-W.
Black Tern, Am. S. S.	do	Boston	43 30 N.	60 40 W.	10	10p, 10	11	29.53	ESE.	SE, 8	W.	W, 10	ESE-S-W.
Executive, Am. S. S.	Gibraltar	New York	37 31 N.	61 30 W.	12	3p, 12	13	29.44	SW.	WNW, 8	NW.	NNE, 10	{SW-WNW-NW.
Nako Maru, Jap. M. S.	Cristobal	do	10 54 N.	79 00 W.	14	7a, 14	15	29.72	NE.	NE, 6	ENE.	NE, 8	
Charles Pratt, Am. S. S.	Providence	Baytown, Tex.	36 00 N.	72 58 W.	15	10p, 15	16	29.38	SE.	WSW, 10	WNW.	WSW,10	SE-WSW.
Elmsport, Am. S. S.	Liverpool	Galveston	36 20 N.	32 06 W.	17	3p, 17	17	29.36	NW.	NW, 9	NNW.	NW, 9	NW-NNW.
Solana, Am. S. S.	Fall River	Houston	34 45 N.	75 06 W.	19	2p, 19	20	29.26	S.	SSW, 10	NW.	SSW, 11	S-SSW-W.
Flora, Du. S. S.	Pto. Cabello	New York	38 54 N.	74 25 W.	19	3p, 19	19	29.05	W.	W, 7	NW.	W, 10	S-W-NW.
West Madaket, Am. S. S.	London	Mobile	32 20 N.	42 10 W.	19	4p, 19	20	29.82	NW.	NW, 10	NNW.	NW, 10	NW-NNW.
San Jacinto, Am. S. S.	New York	San Juan	35 50 N.	72 42 W.	19	6p, 19	20	29.28	SW.	SW, 9	WNW.	WNW,10	SW-W.
Yankee Arrow, Am. S. S.	Portland	Beaumont	40 40 N.	69 00 W.	19	8p, 19	20	28.97	NE.	SW, 10	WNW.	SW, 11	SE-SW.
Palembang, Du. S. S.	Cape Verde Is.	Boston	42 24 N.	70 50 W.	19	9p, 19	20	28.93	NE.	NE, 9	N.	NE, 10	NE-N-WNW.
Champlain, Fr. S. S.	Southampton	New York	43 45 N.	55 30 W.	20	Noon, 20	21	[2]29.17	SE.	S	WNW.	W, 10	SE-S-W.
Gulfking, Am. S. S.	Port Arthur	Beverly	36 20 N.	73 55 W.	23	2a, 23	25	29.54	WNW.	WSW, 6	NW	NW, 10	WSW-WNW.
Thurland Castle, Br. M. S.	Penang	Halifax	39 01 N.	59 16 W.	24	6a, 25	26	29.75	W.	WNW, 9	NW.	WNW, 10	W-WNW-NW.
Maasdam, Du. S. S.	Rotterdam	New York	44 51 N.	43 05 W.	25	8p, 25	26	29.35	WSW.	WSW, 8	W.	W, 10	W-WSW-W.
Quaker City, Am. S. S.	Dundee	Boston	[3]48 20 N.	46 43 W.	24	1a, 26	27	28.91	WSW.	W	W.	SW, 10	WSW-SW.
West Quechee, Am. S. S.	Lake Charles	Liverpool	49 57 N.	23 08 W.	26	11a, 26	28	28.84	SW.	SW, 8	SW.	W, 10	SSE-SW-WSW.
New York, Ger. S. S.	Cherbourg	New York	49 12 N.	37 12 W.	26	8p, 26	28	28.66	NW.	WSW, 11	NW.	WSW,11	
Europa, Ger. S. S.	do	do	49 30 N.	22 00 W.	27	5a, 27	28	29.07	SW.	WSW, 8	WSW.	WSW,10	SW-W-SW.
Brandywine, Am. S. S.	Boston	New Orleans	39 12 N.	71 18 W.	27	Noon, 27	28	30.02	NW.	NW, 7	NW.	NW, 10	
H. M. Flagler, Am. S. S.	Caripito	Boston	34 26 N.	67 24 W.	28	Noon, 28	29	29.72	W.	NW, 9	NW.	NW, 9	None.
Fernwood, Nor. M. S.	Sandefjord	Tampa	34 40 N.	50 05 W.	28	4p, 28	29	29.68	S.	SSW, 10	WNW.	SSW,10	SSW-WSW.
Makala, Belg. S. S.	Congo River	Antwerp	37 50 N.	11 18 W.	28	5a, 29	30	29.74	SW.	WSW, 12	WNW.	WSW,12	WSW-NW.
Europa, Ger. S. S.	Cherbourg	New York	43 54 N.	48 12 W.	28	2p, 29	30	28.94	S.	SW, 8	WNW.	W, 10	S-NW-W.
Excalibur, Am. S. S.	Malaga	Boston	42 24 N.	32 36 W.	29	8a, 30	31	29.44	SW.	SW, 7	W.	W, 10	SW-W.
Duivendrecht, Du. M. S.	Rotterdam	Philadelphia	46 32 N.	39 15 W.	30	Noon, 30	31	29.04	SW.	WSW, 8	WNW.	WSW,10	SW-WSW.
Swiftsure, Am. S. S.	Tiverton	Norco	[3]32 33 N.	72 07 W.	30	4p, 30	30	29.49	SSW.	WSW	WNW.	SSW, 9	SSW-WSW.
NORTH PACIFIC OCEAN													
Tai Ping, Nor. M. S.	Los Angeles	Kobe	30 13 N.	168 50 W.	1	2p, 1	1	29.03	N.	E, 4	N.	N, 11	E-N.
Stanley Hiller, Am. S. S.	Long View	Los Angeles	44 42 N.	124 16 W.	1	do	2	[2]29.54	S.	S, 5	SW.	SW, 9	S-SW.
Mexican, Am. S. S.	Seattle	San Francisco	43 44 N.	124 41 W.	1	8p, 1	2	[2]29.91	S.	S, 8	S.	S, 10	
Melville Dollar, Am. S. S.	Manila	do	37 42 N.	148 06 W.	2	1p, 2	3	29.48	S.	S, 9	W.	SW, 10	S-SW.
Golden Dragon, Am. S. S.	San Francisco	Yokohama	45 25 N.	142 15 W.	2	7a, 3	3	28.76	S.	SSW, 10	WNW.	SSW, 11	S-SSW-W.
Golden Tide, Am. S. S.	Dairen	San Francisco	46 28 N.	170 45 W.	3	2p, 3	3	28.92	NE.	N, 9	NNW.	N, 9	NE-N.
Kentucky, Am. S. S.	Cebu, P. I.	do	41 30 N.	138 38 W.	3	2a, 3	4	29.78	S.	S, 7	W.	W, 9	None.
Niagara, Br. S. S.	Victoria, B. C.	Honolulu	43 18 N.	134 55 W.	3	3p, 3	4	29.47	SW.	SW, 12	WNW.	SW, 12	None.
Mala, Am. S. S.	Bellingham	do	43 42 N.	131 10 W.	3	7p, 3	4	29.39	SW.	SW, 8	WNW.	W, 10	SW-WSW.
Hakutatsu Maru, Jap. S. S.	Yokohama	Grays Harbor	49 18 N.	138 00 W.	3	3a, 4	4	29.05	SE.	W, 4	NW.	NW, 10	
President McKinley, Am. S. S.	do	Victoria, B. C.	49 56 N.	164 48 W.	4	4a, 4	5	28.81	W.	NW, 3	WSW.	WSW, 8	SW-NW-W.
Silveray, Br. M. S.	Cebu, P. I.	Los Angeles	37 00 N.	165 52 W.		1a, 5		29.73		S, 9		S, 9	

[1] December. [2] Barometer uncorrected. [3] Position approximate.